Settings." The temperature curves plotted in this bulletin confirm in a very interesting manner the hydraulic laws governing the flow of hot gases. The illustrations in this article are taken from this bulletin and the only additional feature is that in three of the figures lines have been added to show the flow of the hot gases and soot pockets and the flow of the chilled gas in Figs. 170, 174 and 177 of this article (Figs. 2,4 and 6 of Bulletin 145).

Fig. 170 shows a gas fired type boiler installed at the Carnegie

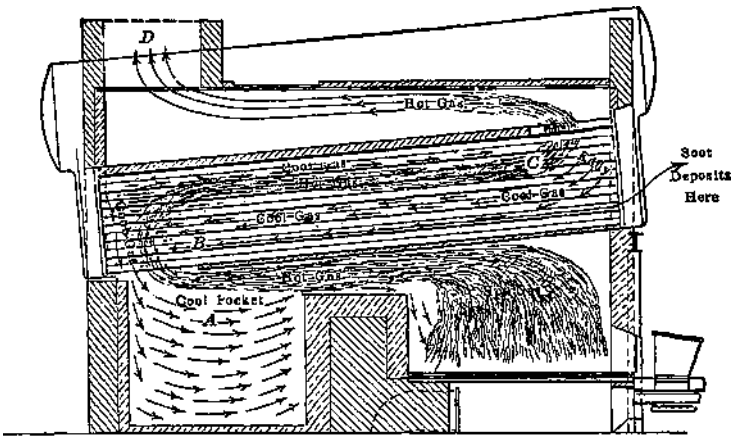

FIG. 174.

Diagram showing flow of gases in single pass horizontally baffled boiler. Underfeed stoker coal firing. Temperature measurements made in this boiler setting are shown in curves, Figs. 175 and 176. By looking at this figure upside down the analogy to the flow of water will be clearly observed. This type of baffling is particularly well adapted for the formation of cool gas and soot pockets.

Institute of Technology. By turning this figure upside down it will appear that the flow from the firebox falls on the inclined baffle on the lower tubes and cascades over the end of the baffle into and among the tubes, flowing under the top of the

baffle.
This flow continues until the last baffle is overflowed and a cascade
is formed to the breeching. The hot gases being very much lighter
than the air have a tendency to rise. Relatively cooler gases will have tendency to fall below hotter gases or stratify above colder
air or gas. Portions of the setting have been indicated as forming
cold or cool gas pockets while other portions are indicated as the